



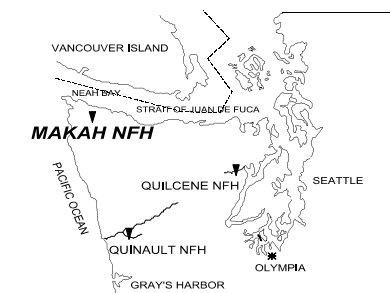
# MAKAH NATIONAL FISH HATCHERY

## Neah Bay, Washington

### INTRODUCTION

The Western Washington Fish and Wildlife Office (WWFWO) and the Olympia Fish Health Center (OFHC) assist the three National Fish Hatcheries (NFH) on the Olympic Peninsula -- Makah, Quilcene, and Quinault (see locale map below). The WWFWO, OFHC, and NFHs work together to restore salmon for domestic and international fisheries in compliance with Trust responsibilities to tribes, court orders, agreements with states, and international treaties. WWFWO works with cooperators to program and evaluate hatchery production to assure obligations are met with minimal impact on wild fish. OFHC provides fish health diagnostic and treatment services to assure optimal post-release survival of hatchery fish.

This annual report provides basic information on Makah NFH to inform Service employees, visitors, and our cooperators of their hatchery programs.



Western Washington locale map

Makah NFH, located on the northwest tip of the Olympic Peninsula, began operating in 1981. Its general goals include rebuilding salmon and steelhead runs along the coast of Washington and contributing to current and future fisheries. Specific objectives to meet these goals vary by species and are described on the following pages.

### QUICK REFERENCE DATA

LEGEND:	AVG	=	Average (mean)
	BY	=	Brood Year
	FL	=	Fork Length
	COS	=	Coho Salmon
	FCS	=	Fall Chinook Salmon
	WST	=	Winter Steelhead
	♀	=	Female
	♂	=	Male

#### ► ADULT AGES AT RETURN

	AGE RANGE	2002 AVG. AGE	1986-2002 AVG. AGE
FCS	2-6 yrs.	3.7	3.7
COS	2-3 yrs.	2.9	2.8
WST	2-6 yrs.	3.1	3.3

#### ► ADULT FORK LENGTHS in millimeters (inches)

	FL RANGE	FL MEAN
FCS	203-1127mm ( 8-44")	780mm (31")
COS	317-830mm (12-32")	628mm (25")
WST	330-985mm (13-39")	624mm (25")

#### ► ADULT ENTRY DATES TO HATCHERY

	1988-2002 RANGE	MEAN ENTRY DATE
FCS	Sep - Nov	October 11
COS	Sep - Dec	October 27
WST	Sep - Feb	December 20

#### ► NUMBER AND DATES OF ADULTS SPAWNED

	2002 Date Range	2002 # Spawned	1986-2002 Avg # Spawned
		♂ ♀ Total	
FCS	09/27-10/15	807 766 1573	933
COS	10/18-11/05	239 283 522	526
WST	11/26-01/07	295 226 521	464

Please direct questions, comments, and suggestions to:



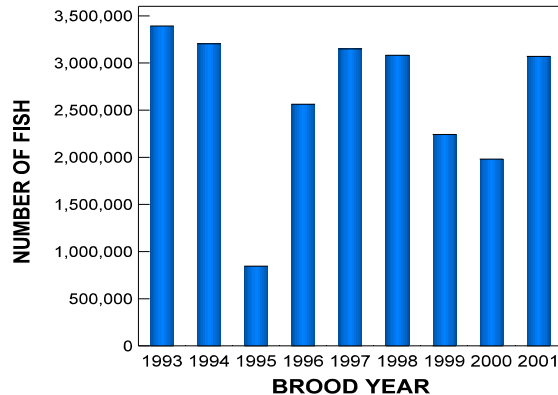
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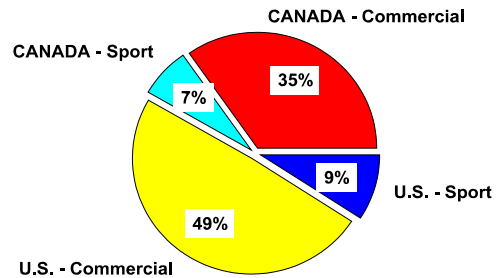


# FALL CHINOOK SALMON

**FALL CHINOOK RELEASES**  
(Brood Years 1992 - 2001)



**CATCH OF FALL CHINOOK**  
(Brood Years 1985-1998)



**OBJECTIVES:** Rebuild Sooes River FCS run to approximately 8,000 returning adults. Contribute to local fisheries near Cape Flattery, as well as tribal fisheries in the Sooes and Waatch Rivers.

**RELEASES:** The program goal is the release of 3.2 million 3.5-inch fish (subyearlings) at the hatchery. The upstream goal is to have 120 females produce naturally-spawned eggs or fed-fry equivalent (sufficient adults are passed upstream to seed the watershed). When available, 100,000 fish are transferred to the Makah Tribe's Educket Creek facility on the Waatch River for rearing and release.

**CATCH:** Commercial fisheries account for 84% of all fish captures. Of the FCS produced by Makah NFH, 42% are caught in Canadian waters, 42% in Alaska, 16% in Washington waters. The portion caught in Washington will increase as the run builds and directed fisheries in the Sooes River occur.

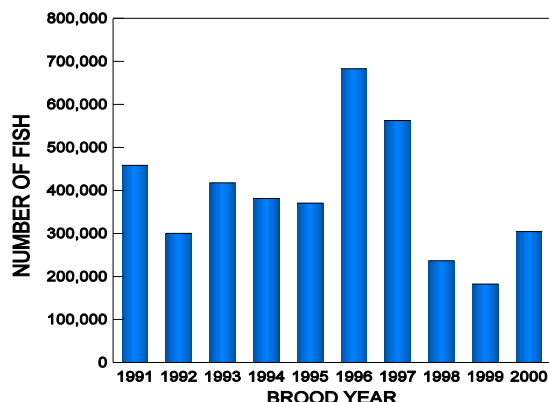
## FCS RETURNS TO HATCHERY RACK AND RIVER BY RETURN YEAR

Return Year	Age at Return					Total per Year
	2	3	4	5	6	
1993	30	152	2,128	0	0	2,310
1994	108	35	359	1,023	0	1,517
1995	358	396	117	206	15	1,093
1996	75	1,756	1,638	110	7	3,586
1997	88	231	3,826	171	0	4,316
1998	77	394	926	1,323	0	2,719
1999	168	353	538	357	24	1,440
2000	301	425	553	138	10	1,427
2001	604	1,553	2,496	222	14	4,889
2002	712	1,126	5,522	405	0	7,765

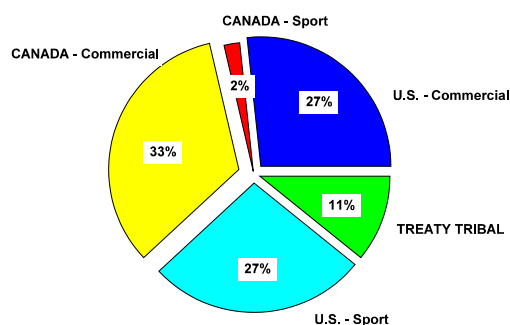
**The run is successfully building. Beginning in 1997, tribal fisheries have been conducted in the Sooes River.**

# COHO SALMON

## COHO RELEASES (Brood Years 1991 - 2000)



## CATCH OF COHO (Brood Years 1988-1999)



**OBJECTIVES:** Build coho runs in Cape Flattery area. Contribute to local fisheries near Cape Flattery, as well as tribal fisheries in the Sooes and Waatch Rivers.

**RELEASES:** Approximately 234,000 coho yearlings are released annually into the Sooes River. An additional 50,000 subyearlings are provided to the Makah Tribe's facility on Educket Creek. Sufficient adults are passed upstream to seed the watershed.

**CATCH:** An average of 6,400 fish (from the 220,000 released at the hatchery) are caught in U.S. and Canadian waters each year.

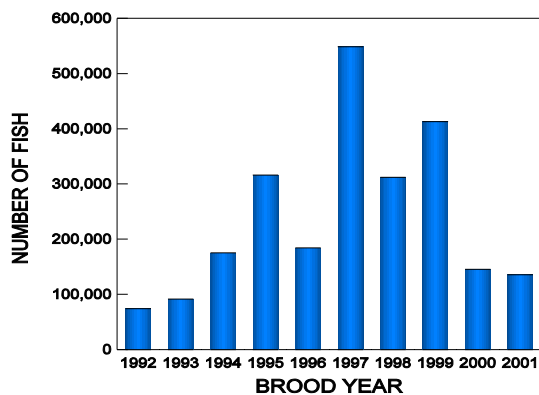
## COHO RETURNS TO HATCHERY RACK AND RIVER BY RETURN YEAR

Return Year	Age at Return		Total per Year
	2	3	
1993	77	1,709	1,786
1994	1,119	5,024	6,143
1995	493	7,530	8,023
1996	200	5,395	5,595
1997	492	2,193	2,685
1998	446	2,969	3,415
1999	492	7,842	8,334
2000	504	4,401	4,905
2001	438	6,388	6,826
2002	485	5,972	6,454

The current coho program contributes to various fisheries and is very successful. Average survival is 4 percent. A coho mass-marking program was initiated in the fall/winter of 1997-98 to support selective fisheries.

# WINTER STEELHEAD

## WINTER STEELHEAD RELEASES (Brood Years 1993 - 2002)



## CATCH OF WINTER STEELHEAD (1991 - 2003)

Catch Year	Number Caught	
	Sooes River	Waatch River
1990-91	1,134	531
1991-92	2,147	813
1992-93	4,233	319
1993-94	1,068	205
1994-95	1,826	163
1995-96	1,857	143
1996-97	2,133	20
1997-98	1,539	166
1998-99	2,967	50
1999-00	963	31
2000-01	1,406	74
2001-02	2,220	90
2002-03	446	22

**OBJECTIVE:** Increase commercial and sport fishing opportunities and harvest in the Sooes and Waatch Rivers.

**RELEASES:** The current production goal is the release of 175,000 yearlings into the Sooes River and transfer of 25,000 yearlings to the Waatch River.

**CATCH:** Winter steelhead are caught in commercial and sport fisheries in the Sooes and Waatch Rivers. Few are caught in the ocean.

## WST RETURNS TO HATCHERY RACK AND RIVER BY RETURN YEAR

Return Year	Age at Return				Total per Year
	2	3	4	5	
1993-94	0	267	126	2	395
1994-95	2	459	163	3	627
1995-96	21	776	48	0	845
1996-97	0	345	131	5	480
1997-98	2	248	194	1	445
1998-99	5	2,261	726	5	2,997
1999-00	6	510	118	5	639
2000-01	0	299	289	2	590
2001-02	19	1,213	516	34	1,782
2002-03	6	441	73	0	520

Steelhead are managed as two populations - a hatchery population, entering from October to February, and a wild population, entering from March to May. The wild population is allowed to move upstream past the hatchery to spawn naturally.